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INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 01/03349

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G06F17/50

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	M. COLLINS: "SOLVING THE PIPE NETWORK ANALYSIS PROBLEM USING OPTIMIZATION TECHNIQUES" MANAGEMENT SCIENCE, vol. 24, no. 7, March 1978 (1978-03), pages 747-760, XP001033599 USA page 748, line 7 -page 755, line 20	1
A	US 4 200 911 A (MATSUMOTO KUNIAKI) 29 April 1980 (1980-04-29) column 3, line 4 -column 7, line 25 -/--	1

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

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Date of the actual completion of the international search

30 January 2002

Date of mailing of the International search report

19. 04. 2002

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International Application No

PCT/GB 01/03349

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	J.ZHANG ET AL: "A BILEVEL PROGRAMMING METHOD FOR PIPE NETWORK OPTIMIZATION" SIAM JOURNAL ON OPTIMIZATION, vol. 6, no. 3, August 1996 (1996-08), pages 838-857, XP001032941 USA page 839, line 1 -page 842, line 24 ---	1
A	G.XUE ET AL: "COMPUTING THE MINIMUM COST PIPE NETWORK INTERCONNECTING ONE SINK AND MANY SOURCES" SIAM JOURNAL ON OPTIMIZATION, vol. 10, no. 1, 1999, pages 22-42, XP001032937 USA page 23, line 27 -page 29, line 34 ---	1
A	E.MATHEWS ET AL: "A NUMERICAL OPTIMIZATION PROCEDURE FOR COMPLEX PIPE AND DUCT NETWORK DESIGN" INT.J.NUM.METH.HEAT FLUID FLOW, vol. 5, no. 5, July 1995 (1995-07), pages 445-457, XP001033595 UK page 451, line 9 -page 452, line 6 ---	1
A	T.LEKANE ET AL: "LONG-TERM OPTIMIZATION MODEL OF TREE WATER NETWORKS" EUR.J.OPER.RES, vol. 4, no. 1, January 1980 (1980-01), pages 7-15, XP001033597 THE NETHERLANDS page 8, left-hand column, line 36 -page 11, right-hand column, line 34 ---	1
A	D.SAVIC ET AL: "GENETIC OPERATORS AND CONSTRAINT HANDLING FOR PIPE NETWORK OPTIMIZATION" SELECTED PAPERS.EVOLUTIONARY COMPUTING.AISB WORKSHOP, 3 April 1995 (1995-04-03), pages 154-165, XP001033594 GERMANY page 155, line 33 -page 158, line 17 -----	1